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U.S. Bureau of  
Apprenticeship and...

Training women for war  
work

Washington, D.C.

[1943]

97-84173-1

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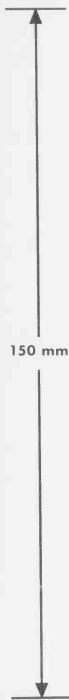
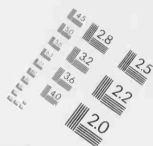
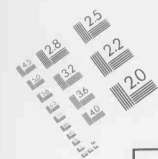
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# PM-MGP METRIC GENERAL PURPOSE TARGET PHOTOGRAPHIC

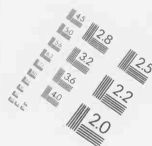
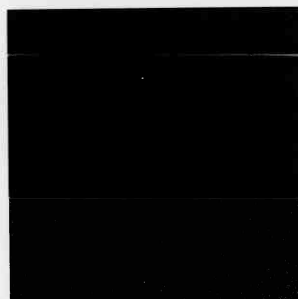
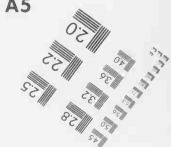


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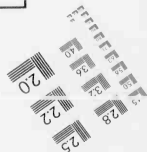
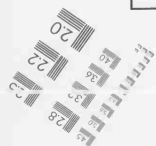
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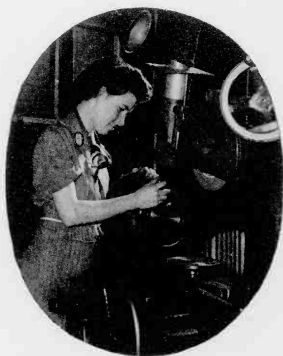


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# TRAINING WOMEN RECEIVED FOR WAR WORK

*Methods and Suggestions for  
Expediting the Job*



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Box 601

WAR MANPOWER COMMISSION

*Bureau of Training  
Apprentice-Training Service  
Washington, D. C.*

INTENTIONAL SECOND EXPOSURE

# TRAINING WOMEN FOR WAR WORK

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Expediting the Job*



WAR MANPOWER COMMISSION

*Bureau of Training  
Apprentice-Training Service  
Washington, D. C.*

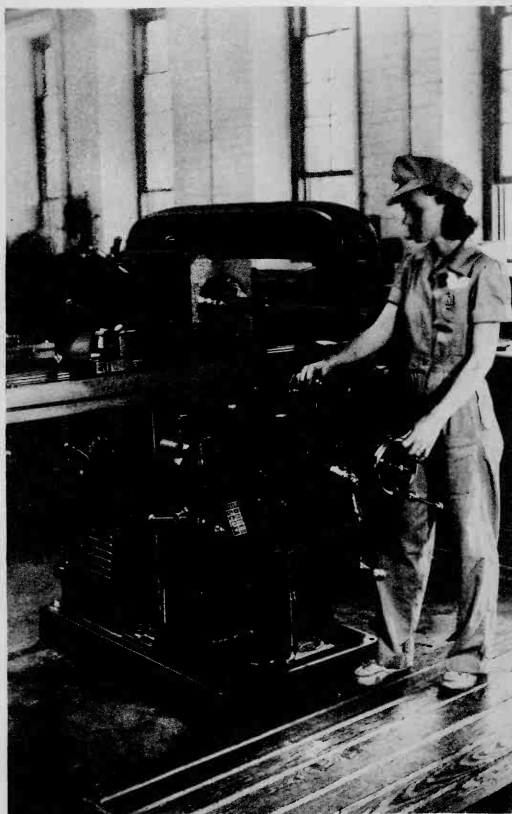
## FOREWORD

One of the vital needs of industry today is the effective use of its womanpower. Wise training procedures are bringing many women war production workers to greater efficiency and encouraging them to continue in their jobs.

These suggested methods and procedures have been prepared by the Apprentice-Training Service. This agency of the Bureau of Training, under the direction of William F. Patterson, has been assisting many war plants to meet their manpower requirements through over-all training programs in which are coordinated all of the training services of the War Manpower Commission.

It is our belief that the outline presented here will be of material assistance to industries that already are employing women or are contemplating the introduction of women war workers to jobs which until recently were performed exclusively by men.

PHILIP VAN WYCK,  
*Acting Director, Bureau of Training,  
War Manpower Commission.*



Woman Ordnance Worker Operating Milling Machine

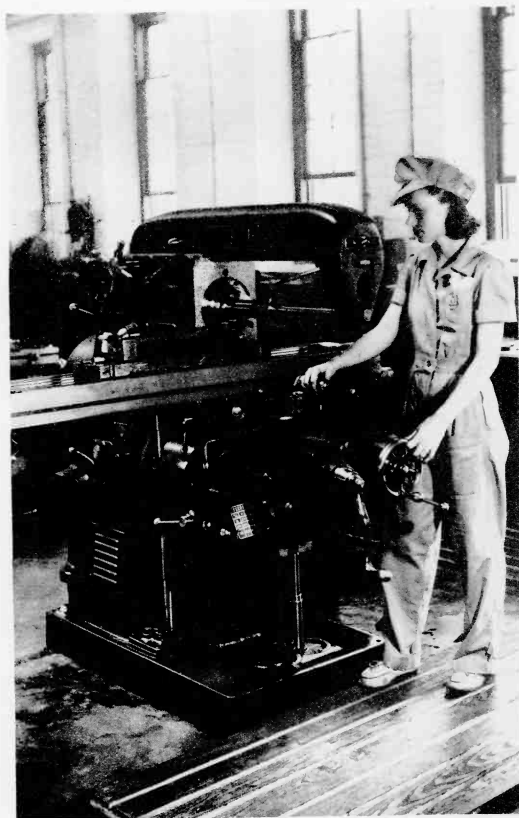
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## INTRODUCTION

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To develop new recruits into efficient war production workers, the Apprentice-Training Service is assisting industry throughout the United States in setting up over-all training systems. In an increasing proportion, the trainees under these systems are women employed for jobs which men have customarily performed.

The training methods suggested for inexperienced women workers do not differ from the recommended procedure for inexperienced male employees, except that additional practice and explanation is recommended to compensate for the lack of mechanical knowledge and industrial experience.

This manual of training procedures, compiled by Mrs. Mary Curran, Training Specialist, is based on her special studies of job training for women and on reports from Apprentice-Training Service field men on training practices which are being applied successfully by war-production plants.

Grateful acknowledgment is made for cooperation in the preparation of this bulletin to the Training Within Industry Service of the Bureau of Training, the Division of Vocational Training for War Production Workers of the U. S. Office of Education, and the Women's Bureau of the U. S. Department of Labor.

WM. F. PATTERSON, *Director,*  
*Apprentice-Training Service.*

## TRAINING WOMEN FOR WAR WORK

### A Basic Outline

*The induction training program* should be especially detailed and should be extended over a sufficient period of time to give the incoming workers a complete picture of the organization in which they are to work, their place in it, and the job they will be expected to do. Because this part of the training program is so important in effectively introducing women to new work, special attention has been given to it in this bulletin. Women workers are inspired by the knowledge of the contribution they are making even though the jobs they perform may, in many instances, be very simple.

*Plant personnel* should be advised of the reasons for introducing women war workers and prepared to welcome and help to orient trainees. The woman counselor should be brought into the induction training program, so that the women will know from the beginning from whom they can secure the guidance most acutely needed in the first weeks of adjustment to new working conditions. *Plant facilities* should be adjusted according to the needs of women workers.

*On-the-job training* should be given by supervisors and instructors who are patient, and sympathetic to the idea of a woman doing the job. The job instructor will be more apt, through encouragement and guidance, to bring the individual trainee to an acceptable standard. Through unsympathetic treatment or poor teaching methods, he may be responsible for trainee turn-over or poor workmanship. Patience and understanding of their work problems, as well as friendly work atmosphere, are even more important to women than to men workers.

*Pre-employment training and supplementary training* are given to provide new skills to women who lack industrial experience, and to improve the efficiency of those who already have skills. Both types of training can be offered when employers hire new applicants and refer them directly to these courses.

*Planning* for women workers through an analysis of the jobs which they can perform most effectively in the plant is an important preparatory step.



## DISCOVERING THE NEEDS

When considering manpower needs in terms of womanpower, it is necessary, first of all, to know just how many new workers will be needed, when they will be needed, where they are needed most, and the training required to prepare them to take over the jobs of men and to work as rapidly and efficiently under an expanded production program as the men they have replaced. The following steps may serve as a guide in planning the training system:

- a. *Chart the replacement needs* in terms of probable losses through Selective Service and other causes.
- b. *Note the jobs* which can be filled by upgrading present employees.
- c. *List the jobs* to be filled by newly hired trainees as a result of replacement needs or planned production expansion for war contracts, indicating the time needed for training such replacements.
- d. *Analyze the jobs* to determine which are already suitable for women, and which can be made suitable for women.
- e. *Discuss the need* for employing women with the foremen of the departments in which women are to be placed. Ask for their suggestions as to which jobs in their departments women may perform most effectively. Secure their full cooperation.
- f. *Discuss with any union* affected the employment of women and how union regulations or the present bargaining agreement may be affected. Secure full cooperation of the union.
- g. *Select trainees* according to suitability for the jobs for which they are to be trained, giving consideration to both physical and mental qualifications.

## ADAPTING PLANT FACILITIES

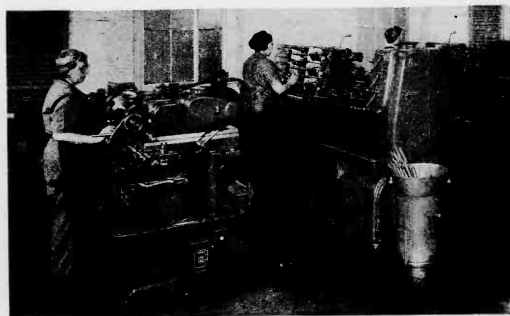
The attitude of a woman worker towards her job is directly affected by the kind of plant facilities available.

- a. *First aid stations and rest rooms* suitably equipped and properly serviced reduce absenteeism and have a favorable effect on morale. These should be installed at convenient locations.
- b. *Nourishing lunches* and sufficient time to eat them will improve both stamina and attendance at work.
- c. *Proper lighting and ventilation* will reduce fatigue and improve the quality and quantity of production.
- d. *Relief* from either constant standing or constant sitting should be provided through short rest periods twice a shift. Time given for rest periods during each 4-hour stretch before and after lunch will be well repaid in increased production.
- e. *Mechanical adjustments* are sometimes necessary. Lifting devices are desirable both for men and women and usually result in increased production. Other equipment modifications may be designed to reduce fatigue and to increase efficiency.

## PREPARING THE PLANT PERSONNEL

The interest and support of supervisors and workers is necessary to the success of any training program. There will be no difficulty in introducing women into new types of work if the proper preparation is made.

- a. *Explain to supervisors, foremen, and shop stewards*, the reasons for introducing women workers to the plant, the types of training necessary and the state laws and other factors affecting women workers. The whole-hearted support of the production superintendents, foremen, and leadmen is essential to the success of any in-plant training program.
- b. *Outline the wage, hour, and training policies* attendant upon their employment.
- c. *Encourage a friendly attitude*, considerate supervision, and methodical instruction through discussion of training methods in job instructor, leadmen, and foremen conferences.
- d. *A training committee* equally representative of management and labor will contribute to the smooth functioning of the training program and will prove invaluable in enlisting the support of the entire working force. Although such committees recommend training policy, they do not in any way usurp the prerogatives of management in conducting the training program.
- e. *Specific responsibility* for directing the entire training program should be assigned to a training director. This plant official should be in a position in the organization to work on a cooperative basis with heads of departments. For effective operation of training in the plant, the whole-hearted support of production and service department heads is essential.



Threading and Reaming Machine Gun Barrels

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## OUTLINING THE TRAINING PROGRAM

Now that the manpower needs are determined, the next problem to consider is: How to train these workers for maximum efficiency? Most of them now being hired are totally inexperienced. The following outline applies to all inexperienced workers, male and female, and there is no need for separating the two groups for training purposes, except for specialized talks listed in the induction training outlines.

A well-designed training program will prepare the new worker for the job, introduce her to the plant and the job; train her in specific job operations, supplemented with instruction designed to increase efficiency on that job; and provide opportunities for additional instruction to allow for advancement. The training plan will be more clearly understood by all who are responsible for its operation if it is set forth in written form. To assist in planning the training program, the following steps are suggested:

- a. Determine the type and amount of instruction needed by inexperienced workers prior to entering the production shop. (*Preparatory training.*)
- b. Plan introductory training for groups of new employees entering a particular job classification or department. (*Orientation or induction training.*)
- c. Decide exactly what the new employee must be taught, how and by whom. The willingness, skill, and understanding of the instructor, supervisor, or leadman to teach the job are important factors to be considered. (*On-the-job training.*)
- d. Determine the type and amount of classroom instruction in specific subjects required to enable the worker to perform effectively on a specific job or group of jobs; and the supplemental instruction recommended to prepare a worker for advancement. (*Supplementary training.*)
- e. Build the program in such a way that each type of training is a coordinated part of the *whole training plan*.



Trainees in Electrical Work

## PREPARATORY TRAINING

Women eagerly responding to the call for war production workers need some preparation for the work. War production training centers offer training to those preparing for employment, and to groups of beginning employees.

### *Pre-Employment Training*

Free training for war production employment, offered through public vocational schools wherever such need exists, prepares women to enter local war industries. Training is specific and intensive and is directed to the jobs to be filled. Labor turn-over is materially reduced through the special orientation given during the process of training prior to employment. This develops sound work habits, proper attitudes, and a knowledge of industry rules and regulations. The plant induction program carries on from here by presenting the specific policies of the company.

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### *Paid Training*

An increasing number of employers have found it profitable and necessary to hire inexperienced workers and to send them to the war production training centers where they "earn while they learn." In many cases they work on production which returns to the company. The training is realistic. There is a minimum of waste, yet training is not subordinated to production.

Employers willingly lend their most skilled workers as instructors for both pre-employment and paid training courses. These men are placed on the war production training pay roll, given teaching techniques and proceed to train for the industries from which they come. Arrangements are sometimes made so that these courses are given at locations near the plant or on plant premises.

The training director in consultation with local vocational education representatives can determine course content which will best prepare those enrolled for the jobs to be filled.



Measuring Pistons for Size and Roundness

### INDUCTION TRAINING

Thousands of women are entering factory work for the first time. Most of them have only a vague notion of what is expected of them. A well-planned induction training program will reduce the bewilderment and confused state of mind of the trainees during those important first few weeks. An induction-training program for a group of women workers may include:

- a. *The Training Director, Works Manager*, or other plant officials may point out the specific opportunities of these workers to contribute to the Nation's war effort. This talk may include a general description of the company organization; the plant layout and the products; the vital character of the products as war material; the training program and opportunities for advancement under it; or a separate talk may be planned to provide training information.
- b. *A representative of the employment or personnel office* may discuss hours, wages, pay day, where and when wages are disbursed, benefit plans, salary deductions, union affiliation, and other rules and regulations attendant upon employment. This information may also be provided in simple written form for future reference by the workers.
- c. *The woman counselor*, if one is employed, should discuss with the women workers the special services which her office provides to them, the location of her office, and introduce her staff, if she has assistants. She should invite her listeners to ask questions at this time, then bring to her any that arise in the future. The woman counselor should check on the adjustment to her work by each new woman worker within 2 or 3 weeks after her induction as an employee.
- d. *A Safety and Health Department representative* may be invited to point out to the employee the reasons for the safety and health rules, location of first aid rooms, and health services to employees. The woman counselor or a representative of the Safety and Health Department should talk to the entering women workers on personal health, hygiene, and conduct from the "woman to woman" viewpoint.
- e. *A brief tour of the buildings or yard* will give additional opportunity for stressing the important points covered in the talk.
- f. *An informal question period* will give each worker an opportunity to get a clear understanding of any points not fully understood.
- g. *Industrial motion pictures* add interest and inspiration for new workers.
- h. *Introduction of each new worker* to the foreman of the shop or to the immediate supervisor at the job location to which she is assigned will complete the introductory training and bring the new worker to the status of an on-the-job trainee.

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## ON-THE-JOB TRAINING

For women workers a more detailed explanation of each job process helps to make up for a lack of mechanical background. Outline exactly how the new employee is going to do the job.

- a. *Responsibility* for training new employees should be placed with carefully selected and well-trained job instructors and supervisors.
- b. *A job instructor* trained in how to teach an inexperienced worker will get the best results. Job instructors report to the supervisor and the training department. If the job instructors are designated by a special insignia, women workers will know whom to ask for help.
- c. *A schedule of work processes* showing detailed operations and estimating training time will guide the job instructors and those directing all phases of the training program, and will serve as a reminder of points which might otherwise be overlooked.
- d. *Progress and worker attitude* should be observed frequently, especially during the first few weeks of employment. To insure the best production from each trainee, follow-up checks should be made.
- e. *The special training needs* for women workers should be kept in mind by all those charged with the responsibility of supervising women workers.
- f. *Records and reports* of the progress of trainees will guide the foremen and the training department in over-all plans. Records will also provide a means for determining advancement of trainees on the basis of skill and ability and for evaluating training results. Periodic evaluation of training program results in terms of shortened training period, increased production, better worker morale, less waste material, and reduced absenteeism and labor turnover is recommended.
- g. *Suggestions from workers* on how the training program is working out or how it may be made more effective will help to keep it on an operating basis.

*For flexibility in the working force*, it is sometimes desirable to train workers in more than one job or in a whole group of related jobs within a department. By having more than one worker trained for a job, absence of one worker will not seriously interfere with the flow of production. Relief may also be provided in this manner to workers on jobs which are particularly monotonous or result in special fatigues which interfere with efficient operation. In planning such training, it is helpful to take the steps listed on the next page.



Wood Drilling Rifle Stock

- a. Analyze jobs within a department for relationship of operations. (These should be within the same wage classification.)
- b. Determine which jobs can be most effectively grouped with minimum training time required for transfer from one to the other.
- c. Outline a schedule designed to train workers in these job-groups.

*Opportunities for advancement* of women trainees should be the same as for men. Upgrading may be achieved through additional training on the job or through supplementary training, or both. In planning a program for advancement through training on the job, the operations may be listed in progressive order following as closely as possible production or training sequence.

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- f. *Records and reports* of the progress of trainees will guide the foremen and the training department in over-all plans. Records will also provide a means for determining advancement of trainees on the basis of skill and ability and for evaluating training results. Periodic evaluation of training program results in terms of shortened training period, increased production, better worker morale, less waste material, and reduced absenteeism and labor turnover is recommended.
- g. *Suggestions from workers* on how the training program is working out or how it may be made more effective will help to keep it on an operating basis.

For flexibility in the working force, it is sometimes desirable to train workers in more than one job or in a whole group of related jobs within a department. By having more than one worker trained for a job, absence of one worker will not seriously interfere with the flow of production. Relief may also be provided in this manner to workers on jobs which are particularly monotonous or result in special fatigues which interfere with efficient operation. In planning such training, it is helpful to take the steps listed on the next page.



Wood Drilling Rifle Stock

- a. Analyze jobs within a department for relationship of operations. (These should be within the same wage classification.)
- b. Determine which jobs can be most effectively grouped with minimum training time required for transfer from one to the other.
- c. Outline a schedule designed to train workers in these job-groups.

*Opportunities for advancement* of women trainees should be the same as for men. Upgrading may be achieved through additional training on the job or through supplementary training, or both. In planning a program for advancement through training on the job, the operations may be listed in progressive order following as closely as possible production or training sequence.



## SUPPLEMENTARY TRAINING

Supplementary training is intensive in-service training for specific occupations given outside of the work station at which the worker is employed. It is designed to improve the skills of the worker on the job or to prepare for promotion to a job requiring a higher level of skill.

In most war production areas, excellent instruction in the desired subjects is provided by the local vocational schools. Where schools are not readily accessible for class work, some companies are able to make arrangements with the schools for supplementary courses to be given on the premises of the plants, and in some instances companies provide such instruction themselves. Many companies have found that it pays to provide supplementary training as part of the day's work.

Supplementary courses, to be most effective, should be:

- a. *Designed to meet the needs of specific jobs.*—The minimum amount of supplementary instruction needed to bring each worker to the highest skill in her job, or the job for which she is training, should be determined.
- b. *Worked out in consultation* with the production department for which each is designed.
- c. *Taught by an instructor who knows* the requirements for jobs of the production department for which the workers are being trained.

## APPRENTICE TRAINING

Women war workers, as a group, are not interested in long term training in preparation for a career in a skilled trade. Women have proved, however, that they are well adapted to some trades. It is important to be sure that the woman apprentice is sincere in her desire to learn the full trade, and that the employer is sincere in his intention to provide the opportunity.

Women admitted to apprenticeship programs should be employed under the same work standards and training schedules as the male apprentices. Care should be taken that these minimum standards recommended by the Federal Committee on Apprenticeship are met:

- a. *An apprenticeship occupation* is considered one which requires 4,000 hours or more to learn.

- b. *Written agreement* containing an outline of the schedule of work processes to be learned on the job.
- c. *Progressively increased wage scale* which should average not less than 50 percent of the journeyman's rate over the period of apprenticeship.
- d. *Related classroom instruction* of at least 144 hours per year.
- e. *Registration* with the State Apprenticeship Council (or with the Federal Committee on Apprenticeship where there is no authorized State Apprenticeship Council).



Replacing Spark Plugs

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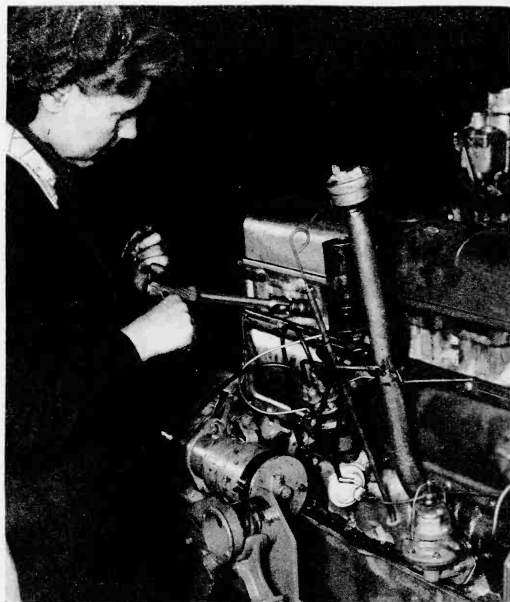
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Replacing Spark Plugs

## WOMEN COUNSELORS<sup>1</sup>

The woman counselor provides service to the workers and to management on the special problems involved in the employment of women and acts as a liaison between them. In plants where the number of women workers employed does not warrant a full-time woman counselor, these duties might be assigned to a woman worker selected for those qualities which would enable her to gain the confidence of the women and the production supervisors. Services of the woman counselor may be:

### *For the Women Workers*

- a. Know the women workers and understand their problems.
- b. Help them solve individual and group problems.
- c. Assist them in the transition to new working conditions through taking part in their induction training.
- d. Recommend to management such facilities as will contribute to their health and welfare.
- e. Advise the women on community services, and act as a liaison between the plant and the community on such problems as child care, housing, transportation, schools, and medical and shopping services.

### *For the Management*

- a. Assist production supervisors in the effective use of women workers, relieving them of detail work in solving personal problems of women under their supervision.
- b. Advise on sound and practical policy on safety, health, and clothing regulations and facilities which will contribute to the health and convenience of the women workers. Plant medical service reports provide specific information on which to base safety and health recommendations.
- c. Through her observations in the shops, make recommendations as to the jobs in which women can be effectively placed. She should have a full knowledge of all of the jobs in which women are employed and be able to advise on placement in less strenuous work those women not physically able to do the work assigned without injury to themselves, and also those which might be performed by part-time workers.
- d. Advise with the training department on details of training programs as they affect women workers both in the plant and at war production training centers. Through such cooperation, continuity in the whole training plan for the women can be achieved.

<sup>1</sup> because of frequent reference to the part of the woman counselor in the training program this is offered as a guide to those who are giving consideration to the employment of a Woman Counselor. Further information on this subject may be secured from the Women's Bureau, U. S. Department of Labor; and the Women's Division, Department of Vocational Education, U. S. Office of Education, Washington, D. C.

## *Desirable Characteristics of a Woman Counselor.*

A woman counselor should be a pleasant and sympathetic person, but sufficiently firm to stand by decisions and insist on regulations being followed. She should be able to recommend staff policies on the employment of women. She should have sufficient knowledge of psychology or experience in working with people to be able to work out effective methods of handling personal problems. She should be able to act with impartiality, and to evaluate objectively the complaints of the women workers. In some instances, such a woman might be found on the production line.

A woman counselor should have some knowledge of industrial practices, especially those of the company in which she is to be employed, and she should be able to gain the cooperation of the shop supervisory force. She should learn the job classifications of every department in which women are to be employed. She should know the state labor laws in connection with the employment of women and be able to advise staff members of them, as they affect the employment of women in the plant. She should know what standards have been recommended for their working conditions that will result in their most effective use. However, with the right personality traits, and sufficient intelligence, the practical information can be learned.

### *To Work Effectively.*

- a. She should be a party to staff conferences on policy affecting women workers, and should be able to provide advisory service in regard to women workers to all plant departments.
- b. She should be available to women workers in the plant at all times. Her office should allow for privacy of interviews and be accessible to the women from the yard or plant, so that they can enter in work clothes. If there are a large number of women workers, assistants should be assigned to work under her direction.
- c. She should have access to records showing on which jobs each woman in the plant is working, so that she can intelligently make recommendations for the solution of problems.
- d. She should visit the work station occupied by every woman sufficiently frequently to be well acquainted with working conditions of each woman employee.
- e. She should have a close working relationship with the plant medical department, referring women workers to that department whenever there is indication that medical advice or assistance is needed.

## TRAINING ASSISTANCE AVAILABLE THROUGH APPRENTICE-TRAINING SERVICE

The services briefly outlined below are provided by field representatives of the Apprentice-Training Service to industries without cost to them:

1. *Training apprentices.*—Assistance is given in improving or inaugurating apprenticeship programs and providing suggestions on methods and techniques relating to the operation of such programs and on adapting apprenticeship to war production needs.

2. *Training advancing workers.*—Advisory assistance is provided regarding the training of advancing workers. These are workers being trained for skills of more limited scope than journeymen, but which require a fairly high degree of skill. The period of training for such workers is shorter than for apprentices but the problems of training are comparable.

3. *Over-all training.*—Advisory assistance is provided on over-all training problems and the development of complete training programs which provide on-the-job training coordinated with the training services supplied by other agencies.

4. *Labor relations affecting training.*—Assistance is provided in dealing with labor problems encountered with the operation of on-the-job training programs. Typical problems applying to training include: seniority rights, wages, number to be trained, hours of work, establishment of training schedules and break-down of operations, establishment of shifts, standards of selection, and supervision of trainees.

5. *Supplementary labor agreements.*—In plants where employees are organized, assistance is provided in preparing supplements to established bargaining agreements where the existing agreement is not sufficiently flexible for the war training and employment situation.

## REGIONAL REPRESENTATIVES

For information regarding the services of field representatives of the Apprentice-Training Service in advising on the development of complete in-plant training programs and the establishment of apprenticeship systems, communicate with the nearest representative. Their names and addresses are listed below.

### REGION I

Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut  
E. K. JENKINS, Supervisor, Rm. 744, 55 Tremont Street, Boston, Mass.

### REGION II

New York State  
JOHN M. MARION, Supervisor, Rm. 617, Old New York State Building, New York, N. Y.

### REGION III

Pennsylvania, New Jersey, Delaware  
GLENN H. FELLER, Supervisor, Rm. 922, 21 South 12th Street, Philadelphia, Pa.

### REGION IV

Maryland, Virginia, West Virginia, North Carolina, District of Columbia  
ROBERT F. HANDLEY, Supervisor, Rm. 401, 1025 Vermont Avenue NW., Washington, D. C.

### REGION V

Ohio, Michigan, Kentucky  
JOHN E. MORLEY, Supervisor, Rm. 674, Union Commerce Building, Cleveland, Ohio.

### REGION VI

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CECIL L. UTTERBACK, Supervisor, 222 West Adams Street, Chicago, Ill.

### REGION VII

South Carolina, Georgia, Tennessee, Mississippi, Florida, Alabama  
J. M. PARMELEE, Supervisor, Rm. 622, Grand Theater Building, Atlanta, Ga.

### REGION VIII

North Dakota, South Dakota, Nebraska, Iowa, Minnesota  
JOHN F. BARRETT, Supervisor, Rm. 500, Midland Bank Building, Minneapolis, Minn.

### REGION IX

Missouri, Kansas, Arkansas, Oklahoma  
TAYLOR F. CUSTER, Supervisor, Rm. 1600, Fidelity Building, Kansas City, Mo.

### REGION X

Louisiana, Texas, New Mexico  
TRAVIS J. LEWIS, Supervisor, 6th Floor, Mercantile Bank Building, Dallas, Tex.

### REGION XI

Montana, Idaho, Utah, Wyoming, Colorado  
EDWARD E. GOSHEN, Supervisor, Rm. 614, Security Life Building, Denver, Colo.

### REGION XII

Oregon, Washington, Arizona, Nevada, California  
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